

DO LEARNERS COLLABORATE DURING TASK PERFORMANCE?

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Abstract

The research based on sociocultural theory suggests that studying learner interaction during task performance will provide a window for understanding the cognitive processes that are involved in acquiring a second language. The study reported here investigated the extent to which pairs of learners collaborated in performing rule-discovery grammar tasks. It took into account the proportion of contribution each learner made to the task and the type of scaffolded assistance they provided each other. The findings indicate that learners do generally collaborate while performing tasks, often sharing talk equally and with little indication of a dominant partner. The interaction between the learners of all pairs investigated in the study displayed evidence of scaffolding in various forms, indicating that they generally approached the tasks with a mutual, collaborative orientation. Learners adopted the roles of experts and novices, which were at times interchangeable, and helped each other to arrive at a shared solution.

Keywords: sociocultural theory, task performance, rule-discovery grammar tasks, scaffolded assistance

INTRODUCTION

Sociocultural theory (SCT), originating from the work of Russian psychologist Vygotsky, is premised on the notion that ideas have social origins; they are constructed through communication with others. Learning is a socially situated activity. What a learner is able to achieve in a social setting, she will eventually be able to accomplish individually.

Sociocultural theorists view language acquisition as occurring through a collaborative process whereby second language (L2) learners adopt the language of interaction as their own and build up their competence in the language as a result of this process of interaction. In this view, learning arises not *through* interaction, but *in* interaction. Language is acquired not individually, but as a result of social interaction that mediates learning.

The essential claim of SCT is that the human mind is mediated (Lantolf, 2000). Learning occurs when biologically endowed internal functions develop into more complex functions of a higher order as a result of social interaction. This results in consciousness brought about through the creation of tools which help to achieve goals. It is these tools that mediate between a person and the world. Lantolf explains that mediation in L2 learning can be of three types: mediation by self, by artefacts and by others. For any kind of mediation to be successful at resulting in development, it must be sensitive to the learner's zone of proximal development (ZPD). This is the difference between what someone can achieve individually and what that same person can achieve with the help of someone/something else. This difference constitutes a person's potential level of development.

Scaffolding helps to ensure that mediation is successful. Scaffolding refers to the dialogic process of speakers assisting each other in performing functions that they are not able to carry out individually, but lie within their ZPD. Wood, Bruner and Ross (1976, cited in Donato 1994, p. 41) identify the following features of scaffolding:

1. Recruiting interest in the task
2. Simplifying the task
3. Maintaining pursuit of the goal
4. Marking critical features and discrepancies between what has been produced and the ideal solution
5. Controlling frustration during problem solving, and
6. Demonstrating an idealised version of the act to be performed.

For interactions between the learner (the novice) and the teachers (the experts) to be successful in leading to a higher level of development, scaffolding needs to occur. In a strong learning community, the people the learner interacts with would provide scaffolding which is finely attuned to the needs of the learner, which will assist the learner in becoming more proficient in the language. Such scaffolded assistance, Donato (1994) argues, need not be uni-directional (i.e. from expert to novice), but can occur as a result of collaborative pair and group work between learners. If the scaffolded assistance is at the right level, dialogic activity between novices can lead to skill development. In such cases of collective scaffolding, Lantolf (2000, p. 84) explains, "expertise emerges as a feature of the group rather than residing in any given individual in the group."

THE STUDY

The study reported here examines the task performance of eleven pairs of ESL learners. The study aims to arrive at an understanding of the processes that take place as a result of pair collaboration during task performance.

The learners were from three levels of proficiency: lower-intermediate (Class 1), intermediate (Class 2) and upper-intermediate (Class 3). In order to maintain anonymity, the individual participants of the study will be referred to throughout as S1, S2, S3 etc., while the different pairs of learners will be identified as Pair 1, 2, 3, etc.

Learners in each class were given a separate grammar task suitable for their level of proficiency. These were relative clauses (Class 1), negative adverbs (Class 2) and ergative verbs (Class 3). The learners performed the tasks in randomly assigned pairs. There were four pairs of learners in Classes 1 and 3 and three pairs in Class 2.

The tasks used for the study presented learners with language data and required them to search for the rules for using the target structure from the given information. They contained an element of information-gap to encourage learners to communicate and work together to solve the language problem. The learners' talk as they performed the task in pairs was audiotaped and transcribed, and these transcriptions constituted the data for this analysis.

ANALYSIS

The transcriptions of learner talk were analyzed for the two following features:

Amount of Talk

Each participant's contribution to the task was calculated in terms of the number of words spoken and identified as a percentage figure to show the extent to which each student took part in the discussion. A relatively equal share of talk between the learners in each pair would indicate a collaborative orientation while a tendency for one participant to dominate would indicate a non-collaborative orientation to the task (Storch, 2001).

Evidence of Scaffolding

The transcripts were analyzed for instances of scaffolded assistance. These included scaffolding by the learners themselves as well as any assistance provided by the researcher.

RESULTS

Amount of Talk

The amount of talk by each individual learner ranged between 26 - 310 words. In five out of the eleven cases, both participants contributed fairly equally to the discussion, with differences of less than 10% within these pairs. However, in the discussions between 6 of the pairs, there were signs of one participant being more or less dominant than the other where amount of talk was concerned. The biggest difference existed between S29 and S28 with S29 contributing just over 11% of the discussion whereas her partner provided more than 88% of the talk.

In comparing the amount of talk between the learners in the three classes, this was the highest in Class 1, with each learner contributing 156 words on average. In Class 2, learners spoke an average number of 108 words, whereas in Class 3, talk was even less with each learner contributing approximately 85 words.

Evidence of Scaffolding

There appeared to be some evidence of scaffolding in the talk between all pairs of learners. The type of scaffolded assistance differed between pairs, with some correcting each other's language, some participants asking for their partner's opinion, and some learners taking on the role of expert and explaining the rules to other learners.

Repetition, used only by Pair 4, refers to one student repeating what the other has said during the discussion. This indicates mutual orientation to the task and attempts to establish intersubjectivity. This was quite frequent in Pair 4 where S14 continuously repeated after his fellow learner. The following extract illustrates such an incident.

Example 1

S16: No no this is correct.

S14: OK. This is correct

S16: Yeah. So you have to find this. Don't use preposition at the maybe this one at the this one at the front of the relative noun.

S14: Front of the

S16: Front of the relative

S14: Relative

S16: Relative...clauses

S14: Relative clauses

S16: Yeah relative clauses noun... relative noun

- S14: Relative noun
S16: Yeah relative noun

Here the learners have actually scaffolded each other to the wrong term - referring to relative pronoun as relative noun - showing that scaffolding does not always lead the learners to formulate correct language.

The next type of scaffolding that was evident in the data involved one learner requesting the opinion of the other. This however was not very common in any of the classes, with just one pair in each class employing this strategy. Nevertheless, it was observed that Pair 8, frequently asked each other's opinion as they progressed through the task. Example 2 shows the students jointly trying to produce sentences using the given ergative verbs, and checking with each other to see if their sentences were acceptable.

Example 2

- S37: How about the dog died yesterday?
S36: Yes... OK. How about this one?
S37: Occur. It's something that causes something to happen... its active also so...
S36: So we can say the accident was occurred by something...
S37: No. That is passive... only active is correct.
S36: OK. Sorry. So...we can...
S37: How about the accident occurred today?
S36: Yeah that's good. Let's write that sentence.

As shown in the example, both learners request the other's opinion, and most importantly, provide feedback to each other's suggestions either by simply agreeing, disagreeing and correcting, or by some form of encouragement such as praise in the final line: *yeah that's good*. They are therefore helping each other to perform a task together that would have been difficult for them to do on their own.

Some of the scaffolded assistance came from the researcher. This was either in the form of a simplification of instructions to be followed, or through questions to help the learners discover the rules for themselves. Such assistance was offered to two pairs in Class 1.

Example 3

- S7: Why are the sentences in the second column incorrect?... I don't understand... What we do? Excuse me... what we do?
R: OK. You have two sets of sentences. These are correct. These are not correct. OK? What I want you to do is look at

where the preposition is in each sentence and explain why these ones are wrong.

- S7: These are correct?
R: That's right... Where is the preposition?
S7: This is preposition and this one and this is preposition.
R: Good. So tell me why this is wrong and this is correct.
S7: Here use preposition one time... here use two preposition.
R: Good. OK. So how will you fill this in? This part.
S1: So use preposition here in the beginning is correct. But here is wrong.
S7: Yes. Because two times.

In the example shown, S7 requests the help of the researcher after being unable to understand how to proceed with the task. R first states what the learners need to do. She then asks S7 to identify the prepositions in the sentences so as to help S7 realise that it is because there are two prepositions in the incorrect sentence that makes it ungrammatical. Through such questions S7 is quickly able to identify the difference.

A further strategy of scaffolding is correction. This feature was present in the talk of many pairs. Students corrected each other's pronunciation, choice of words, and grammar.

Example 4

- S14: the [x] to... the message to...the girl who we have the message to
S16: Just a moment. We have? Not gave? I think gave...
S14: Yes. We gave the message

Another scaffolding strategy that was evident among all classes was requesting information. Learners request each other's assistance by asking for some information to be provided: information that they do not have or do not understand.

Example 5

- S37: OK. My sentence is here the ball is the patient...
S36: How to spell patient?
S37: p.a.t.i.e.n.t...
S36: OK...

Explanation of the grammatical structure between students was observed only in Classes 2 and 3. Example 6 represents such an incident.

Example 6

- S48: *He was died yesterday...* This sentence correct. These wrong. Why?
- S43: Why?
- S48: These have voice... I think it's because of in the incorrect sentence the student use passive voice.
- S43: What about agent and patient?
- S48: This one there is not agent... Because they belong to a special group.
- S43: *The agent... the agent is the boy. The boy does the action. The patient is the ball...* OK.
- S48: So boy is the agent and ball is the patient. So in the second sentence you can't use the passive voice
- S43: Yes. So all these sentences are the same. All these sentences have patient not agent.
- S48: So passive voice is incorrect.
- S43: OK. Only patient. No agent... no passive voice.

Here S48 explains to S43 why the passive voice is incorrect when used with ergative verbs, and how ergative sentences do not have agents. In sociocultural terms, S48 is orienting S43 to a shared understanding. S43 follows her explanation by checking the explanation on the task sheet: *The agent is the boy. The boy does the action. The patient is the ball... OK*. He regulates the interaction by signalling his inability to understand, through questions, and finally arrives at the same orientation as S48 in the final line of the extract.

The following is another example where one student explains the structure to the other.

Example 7

- S47: This is like transitive and intransitive verb. Do you know transitive and intransitive verb?
- S44: No I don't.
- S47: For example. The boy kicked the ball. He kicks on purpose. But here the accident happened. It just happened
- S44: Ah. No agent... And I think don't need object. Don't have object.
- S47: Happen, fall, occur, continue or die. No. No object
- S44: Hmm...
- S47: So in this case the accident happened last week.
- S44: Yeah
- S47: Here the accident is not the agent.
- S44: Hmm

- S47: But...
S44: Ah. A special group of verbs.
S47: Yes. Not necessary to mention agent.
S44: OK... OK.

Here, S47 has taken the role of expert, and is explaining the new structure to the novice S44, using different techniques to put her point across. She uses other terms the students may be more familiar with, in order to compare the features, and utilises both the examples given and the explanation of agent and patient provided in the task sheet.

The final example of scaffolding through explanation shows the two learners sharing a more or less equal role, with each providing his own rule for using negative adverbs at sentence initial position.

Example 8

- S33: Ah I know. I know...Listen if we put the beginning...put in beginning, you have to use the question sentence.
S32: Huh?
S33: Could I believe my eyes is question sentence...And we put this word in the beginning... So if you put in [middle]
S32: [No I think] if you put in the beginning you have to change the order.
S33: Yes yes so you...
S32: You have to change the ... er ... subject er no...I...
S33: So yes... so if you put in beginning you have to use question sentence... So could I believe my eyes is a question sentence.
S32: This is not a question... Not question sentence.
S33: Does she bathe... Why not?
S32: Because this is full stop. Not question.
S33: Yes so you put first... I mean you put first behind the this, the negative word is first... Behind is question sentence.
S32: No no.
S33: Like what like like
S32: You just change the subject and the verb
S33: Yes yeah that's what I mean.

The students are trying to explain the difference between negative adverbs at sentence initial position and at mid position. Both learners are trying to express their own reasons, and put forward a rule. Unlike the previous two examples where one learner was more passive, in example 8, it is clear that both S33 and S32 jointly arrive at a solution, through collective scaffolding. They are, as Donato (1994) states, individually novices and collectively experts.

In the majority of transcriptions there is a clear indication that one learner takes on the discourse role of expert, and assists his/her novice partner through different stages of the task. This is evident even in Class 1 where none of the learners explained the grammar point to one another. Out of the eleven cases, there were only four where no dominant learner was observed. In these pairs the expert-novice roles were quite fluid and interchangeable. In the other seven pairs, one learner continuously played the role of expert, offering explanations, correcting errors and suggesting rules.

Analysis of the data showed that in general, learners did not interrupt each other to provide help, except in some cases of correction. On analysing the sequential structure of the episodes of scaffolding, it was observed that assistance was usually triggered by a definite cue for help. This included information or opinion requests and explicitly asking for explanation. In some cases however, scaffolding was offered following more subtle indications of readiness for assistance. These included cases where one learner was clearly struggling to understand the data and the other provided help without being asked to, and more implicit requests for help discernible from the tone of intonation.

DISCUSSION

There appear to be many differences that occur among the performances of the learners in the three classes. The first of these relates to the amount of talk. The findings indicate that the amount of talk the learners produce decreases with proficiency as learners in Class 1 (lower intermediate) speak the most and those in Class 3 (upper intermediate) speak the least. This may be related to the fact that at lower levels learners do not have enough language to express themselves clearly, and thus resort to circumlocution. In some cases it is also necessary to repeat themselves in order to make themselves understood by the other learner. As they improve in competence, learners are able to put forward their views more clearly and succinctly. Nevertheless, it is not possible to conclude whether this difference in the amount of talk was a result of proficiency or due to the type of task.

Mutual orientation to the task was observed to be a prevalent feature in all pairs. There were differences observed between learners within pairs relating to the amount of talk and the extent to which learners were willing to adopt expert-novice roles. The extent to which learners talked cannot be taken simply as being related to their understanding of the grammar point. A learner's willingness to participate in the dialogue can also depend on other factors such as their personality, or their learning styles. It can be expected

that introvert learners participate in a less dominant role than extrovert learners.

The learners' ability to naturally adopt expert and novice roles is evidence of what Donato (1994) refers to as collective scaffolding. The fluidity of these roles and their interchangeable nature, even where the learners were of differing abilities, imply that through mutual assistance, learners can collectively achieve a shared goal even though they may be unable to do so on their own. In comparing the scaffolding present in the three classes, it can be observed that explanation of rules was frequent in Classes 2 and 3 and non-existent in Class 1. However, a greater variety of scaffolding strategies was evident in Class 1. This may be related to the fact that Class 1 was lower in proficiency than the other two, and learners thus required to work harder to help each other achieve a solution to the task.

CONCLUSIONS

Aljaafreh & Lantolf (1994) describe five levels of internalisation from interpsychological to intrapsychological functioning. The analysis presented above has shown some evidence of learners' transition from one level to the other through the collaborative task. While this development is not a guarantee that the target structures have been fully acquired, the task has helped to start this process of internalisation. Further experience with these structures in a broader range of contexts is needed to build on these accomplishments.

The instances of mediated learning that occur within the rich tapestry of learner interaction that this study describes is indicative of the skilfulness of L2 learners in assisting each other just as that between a parent and a child or a teacher and a learner. It has been shown that input alone is not responsible for bringing about learning, as learners were able to expand their own understanding of the target language and help develop the linguistic repertoire of their peers through collective scaffolding. This supports the current theoretical position of group/pair work, and implies that every opportunity should be created for learners to interact while performing language learning tasks.

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APPENDIX

Task Sheets for Class 2: Negative Adverbs

STUDENT A

A. Look at the sentences below. Underline the negative adverb, using the example to guide you.

Example: He rarely went to the cinema.

1. I could scarcely believe my eyes.
2. The office was hardly empty.
3. She seldom bathes.
4. I have never seen him here.
5. I rarely go to the beach.

B. Listen to your partner read his/her sentences. Write them down below. Then, check that you have copied them correctly.

- 1.
- 2.
- 3.
- 4.
- 5.

C. Talk about the two sets of sentences. How do they differ?

D. Working with your partner, change the following sentences so that the adverb goes at the beginning of the sentence. Try to explain the changes you need to make to the sentences.

I could hardly move my legs.

Hardly.....

I slept little last night.

Little.....

Examiners are rarely unkind.

Rarely.....

STUDENT B

A. Look at the sentences below. Underline the negative adverb, using the example to guide you.

Example: Rarely did he go to the cinema.

1. Scarcely could I believe my eyes.
2. Hardly was the office empty.
3. Seldom does she bathe.
4. Never have I seen him here.
5. Rarely do I go to the beach.

B. Listen to your partner read his/her sentences. Write them down below. Then, check that you

have copied them correctly.

- 1.
- 2.
- 3.
- 4.
- 5.

C. Talk about the two sets of sentences. How do they differ?

D. Change the following sentences so that the adverb is not at the beginning of the sentence.

Working with your partner, try to explain the changes you need to make to the sentences.

Scarcely had she left when the dancing started.

.....

Little did she know what trouble she was in.

.....

Rarely am I late for class.

.....